

METHOD AND APPARATUS FOR ATTACHMENT OF A PLASTIC PROBE TIP TO A METAL COMPONENT

Abstract

A method and apparatus for fixedly securing a plastic encapsulated transducer to a metal interface cup for attachment with a machine includes a metal interface cup configured substantially as a cylinder defined by a cylinder wall and a bottom wall closing a bottom of the cylinder, the cylinder including a first bore corresponding to an inner diameter defined by the cylinder wall, the first bore corresponding to an outside diameter of the plastic encapsulated transducer; a second bore extending through opposing sides defining an exterior of the cylinder wall and substantially transverse to the first bore; an undercut configured in the first bore intersecting the second bore, the undercut defining a circumferential groove in the cylinder wall; a cylindrical overmold surrounding the metal interface cup having the plastic encapsulated transducer disposed in the first bore, wherein injection of plastic flows in an axial length defining the overmold toward the metal interface cup and circumferentially into the undercut via the

second bore, thus forming a solid interference therebetween upon solidification restricting axial movement therebetween.